

Appl. No. 10/708,277  
Amdt. dated May 16, 2006  
Reply to Office action of February 08, 2006

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

1 (currently amended): A semiconductor process and yield analysis integrated real-time  
5 management method, comprising:

inspecting a plurality of semiconductor products with a plurality of items during  
semiconductor process, and recording a plurality of inspecting results of each  
semiconductor product;

10 classifying the semiconductor products as a plurality of groups with a predetermined  
rule, generating a raw data according to the inspecting results of each group, and  
recording the raw data and the corresponding groups in a database;

indexing a plurality of semiconductor product groups from the database by a  
predetermined product rule, indexing the corresponding raw data of each semiconductor  
product group by a predetermined parameter, and calculating a corresponding analysis  
15 result from the indexed semiconductor product groups and raw data with an analysis  
module, wherein each of the semiconductor products are chips situated on different  
positions of a wafer, indexing the semiconductor product groups is performed by  
gathering statistics of the inspecting results according to their positions; and

20 displaying the analysis result according to the indexed semiconductor product groups  
and the raw data and displaying the inspecting results of each chip according to its  
position on the wafer.

2 (cancelled).

25 3 (currently amended): The method of claim 1 wherein the semiconductor products are  
from different kinds or lots of wafers, indexing the semiconductor product groups is  
performed by gathering statistics of the inspecting results according to the kinds, lots or

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manufacturing dates of wafers, and displaying the inspecting results is performed according to the kind, lot, and manufacturing date ~~kinds, lots and manufacturing dates~~ of each wafer.

5 4 (currently amended): The method of claim 1 wherein ~~[[the]]~~ inspecting results and statistics of the semiconductor products are indexed and displayed according to a predetermined period in which the semiconductor products are produced.

10 5 (currently amended): The method of claim 1 wherein each semiconductor product is a wafer processed by different processes, the inspecting results are the results of defect inspection of the wafer in the manufacturing process, indexing the results of defect inspection, and displaying the results of defect inspection ~~are~~ is performed according to ~~the~~ a kind and date of the processes.

15 6 (currently amended): The method of claim 1 wherein each semiconductor product is a wafer processed by different processes, indexing and gathering statistics are performed by examining time trends of the inspecting results of the processes, and ~~displaying the trend charts~~ are displayed according to kinds and ~~date~~ dates of the processes.

20 7 (original): The method of claim 1 wherein each semiconductor product is a wafer processed by different manufacturing processes, indexing and gathering statistics are performed by indexing and gathering inspecting results within a predetermined period, and the corresponding inspecting results are displayed according to the predetermined period.

25 8 (currently amended): The method of claim 1 further comprising recording the analysis results ~~in the~~ of different periods, comparing the similarity of the analysis results, and displaying the similar analysis results.

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9 (currently amended): The method of claim 8 wherein the analysis results in the different periods are ~~record~~ recorded as a plurality of corresponding modules of analysis results according to ~~[[a]]~~ an experimental value~~[[;]]~~, and after comparing ~~[[a]]~~ an analysis result  
5 with another previous analysis result, the method further comprises updating the experimental value to build a new module of analysis results if the analysis results result is not similar to the previous analysis results, or recording the analysis result as a module of analysis results if the analysis result is similar to the previous analysis result.

10 10 (currently amended): The method of claim 1 wherein the analysis result is displayed with a visual interface of a computer.

11 (original): The method of claim 10 wherein each indexed semiconductor product group is listed with the visual interface, and users can find the corresponding raw data and  
15 corresponding analysis results according to the indexed semiconductor product groups in the cross reference way.

12 (currently amended): The method of claim 1 wherein the raw data are listed with the a visual interface, and users can find the corresponding semiconductor product groups and  
20 the corresponding analysis results according to the indexed raw data in a cross reference way.

13 (currently amended): The method of claim 1 further comprising ~~the an~~ an in-line yield inspection of semiconductor ~~process~~ processes.

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14 (original): The method of claim 1 further comprising a sample test of semiconductor wafer.

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15 (original): The method of claim 1 further comprising a wafer test.

16 (original): The method of claim 1 further comprising a final test.

5 17 (currently amended): The method of claim 1 wherein transferring or querying data provides the analysis results, and the ~~playing~~ displaying is performed by showing an in-line quality control (in-line QC) of each semiconductor product, a root cause analysis (RCA) of each process, and a quality control and yield improvement of different kinds of processes being displayed.

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18 (original): The method of claim 1 wherein the analysis module is a T-test, a one-way analysis of variance (ANOVA), a two-way analysis of variance, or box plots.

15 19 (currently amended): The method of claim 1 wherein displaying the analysis result further ~~comprising~~ comprises:

setting a ~~estimated~~ customized displaying mode by a user for recording ways to display analysis results; and

displaying the analysis results to the user according to the ~~estimated~~ customized displaying mode.

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20 (currently amended): The method of claim 19 wherein displaying the analysis result further ~~comprising~~ comprises:

25 providing a plurality of default displaying modes with each default displaying mode recording a predetermined way of displaying analysis results, such that the user sets the ~~estimated~~ customized data displaying mode by selecting a default displaying ~~modes~~ mode to be the ~~estimated~~ customized displaying mode.

21 (cancelled).